

**REMARKS**

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

**I. CLAIM STATUS & AMENDMENTS**

Claims 50-63 were pending in this application when last examined. These same claims stand rejected.

Claims 51, 54, 56 and 61-63 have been cancelled without prejudice or disclaimer thereto. Applicants reserve the right to file a continuation or divisional application on any cancelled subject matter.

Claims 50, 52, 53, 55 and 57-60 are now pending in this application.

Claims 50, 52, 53, 55, 57 and 59 have been amended.

Claims 50, 55, 57 and 59 were amended to better conform with U.S. law for method claims by including a positive recitation of method steps.

Support for the positive method steps added to claims 50 and 55 can be found in the specification, for example, at page 3, lines 15-29, and in original claim 3.

Support for the amendment to claim 52 can be found in the specification, for example, at page 6, lines 18-30, and page 7, lines 6-18, and in original claims 6-8.

Support for the amendment to claim 53 can be found in original claims 6-8.

Support for the amendment to claims 57-59 can be found in the specification, for example, at page 3, lines 15-20, and in original claim 2.

Therefore, no new matter has been added by this amendment.

**II. REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 50-63 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons set forth at page 3, line 10 to page 4, line 18 of the Office Action.

It is respectfully submitted that the present amendment overcomes this rejection by amending the claims to include a positive recitation of method steps.

Therefore, the rejection of claims 50-63 under 35 U.S.C. § 112, second paragraph is untenable and should be withdrawn.

### **III. REJECTION UNDER 35 U.S.C. § 102**

Claims 50-63 were rejected under 35 U.S.C. § 102(b) as anticipated by Selva et al., Genetics, vol. 139, no. 3, pp. 1175-1188 (1995). See Office Action, page 5, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs. Kindly note that the Selva reference was submitted in an IDS filed on September 30, 1998, and not in an IDS filed not March 1995 as indicated in the Office Action. No IDS was submitted on March 1995.

This rejection is respectfully traversed as applied to the amended claims for the following reasons.

To anticipate a claim, a cited prior art reference must either expressly or inherently teach each and every element of the claimed invention.

The claims are directed to methods for enabling meiotic recombination. For instance, claim 50 calls for maintaining the diploid yeast cells under condition to effect meiosis. Similarly, claim 55 calls for culturing the cells to effect meiotic recombination.

Selva fails to teach and/or suggest meiosis or meiotic recombination. Instead, Selva describes a homologous mitotic recombination assay in bakers' yeast. Selva, page 1175, Abstract, line 1; page 1176, 1<sup>st</sup> column, lines 7-10 of the 2<sup>nd</sup> paragraph.

Fundamental differences exist between mitotic recombination and meiosis/meiotic recombination in yeast. The enzymatic mismatch repair system in meiosis is different from that involved in mitosis. For example, mitosis and meiosis require different mismatch repair genes and different proteins, respectively. Accordingly, a mutation of a given mismatch repair gene can have different effects in meiotic recombination when compared with that in mitotic recombination, and vice versa.

This difference is reflected in the teaching of Selva. According to Selva, the PMS1 deletion mutant did not exhibit elevated homologous recombination. Selva, page 1175, Abstract, last line. See also lines 1-3 on page 15 of the specification.

On the other hand, in the present application, it was found that PMS1 produces up to a 10-fold enrichment in meiotic recombinants. Specification, page 15, lines 5-6.

This difference is due to the differences in the respective enzymatic mismatch repair system for meiosis and mitosis.

Based upon the results obtained in Selva for mitotic recombination, one of skill in the art could not draw any conclusions concerning the effects of mismatch repair gene mutants in the meiotic recombination rate in the present invention. The results of the present invention could not have been predicted in view of the Selva teaching. Thus, it is clear that Selva fails to disclose or suggest meiosis or meiotic recombination.

For this reason, Selva cannot be said to teach each and every element of the claimed invention. Therefore, Selva cannot anticipate the claimed invention.

In view of the above, the rejection of claims 50-63 under 35 U.S.C. § 102(b) over Selva is untenable and should be withdrawn.

### CONCLUSION

In view of the foregoing amendments and remarks, the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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